KENWOOD

STEREO CASSETTE TAPE DECK

KX-79CW

INSTRUCTION MANUAL

KENWOOD CORPORATION

B60-0005-10 (JA) (SI) (K, P, Y, M, X)(T)
90/12 11 10 9 8 7

Introduction

Your choice of this product indicates that you are a devotee to excellence in sound reproduction.
We appreciate your patronage and take pride in the long tradition of quality components that our company represents.
So that you can get the most out of your unit, we suggest that you take the time to read through this manual before you hook up and operate your system. This will acquaint you with operating features and system-connection considerations so that your listening pleasure will be enhanced right from the start.
You will notice that in all aspects of planning, engineering, styling, operating convenience and adaptability we have sought to anticipate your needs and desires.
Keep this manual handy for future reference.

For your records

Record the serial number, found on the back of the unit, in the spaces designated on the warranty card, and in the space provided below. Refer to the model and serial numbers whenever you call upon your dealer for information or service on this product.
Model _____ Serial Number _____

Unpacking

Unpack the unit carefully and make sure that all accessories are put aside so they will not be lost.
Examine the unit for any possibility of shipping damage. If your unit is damaged or fails to operate, notify your dealer immediately. If your unit was shipped to you directly, notify the shipping company without delay. Only the consignee (the person or company receiving the unit) can file a claim against the carrier for shipping damage.
We recommend that you retain the original carton and packing materials for use should you transport or ship the unit in the future.

WARNING NOTICE:
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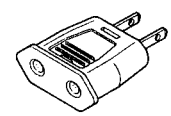
Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ⧈ are trademarks of Dolby Laboratories Licensing Corporation.

Accessories

Audio cord × 2

System control cord × 1

AC plug adaptor × 1
(For the unit with a European AC plug in areas other than Europe.)



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⚠Caution: Read this page carefully to ensure safe operation.

Before applying power

For the U.S.A. and Canada

Important!

Units shipped to the U.S.A. and Canada are designed for operation on 120 volts AC only.

Safety precaution for a Polarized AC plug

However, some products may be supplied with a non-polarized plug.

CAUTION: TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

For the United Kingdom

Important!

Units shipped to the U.K. are designed for operation on 240 volts AC only.

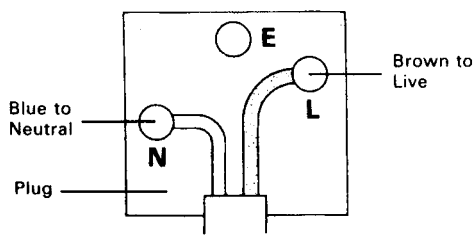
The mains plug must be removed from the wall socket prior to any internal examination.

The wires in this mains lead are coloured in accordance with the following code:

Blue ..... Neutral
Brown ..... Live

The wires in this mains lead must be connected to the terminals in the plug as follows:

Wire colour	**Plug terminal marking**
Blue	N or Black
Brown	L or Red



Notes:

1. If a 13-amp plug is used, this must be fitted with a 5-amp fuse.
2. If a 3-pin plug with earthing contact is used, no wire must be connected to the E terminal.

For Australia and Europe

Important!

Units shipped to Australia are designed for operation on 240 V AC only.

Units shipped to Europe are designed for operation on 220 V AC only.

For other countries

Important!

Units shipped to countries other than the above countries are equipped with an AC voltage selector switch on the rear panel. Refer to the following paragraph for the proper setting of this switch.

AC voltage selection

This unit operates on 110-120 or 220-240 volts AC. The AC voltage selector switch on the rear panel is set to the voltage that prevails in the area to which the unit is shipped. Before connecting the power cord to your AC outlet, make sure that the setting position of this switch matches your line voltage. If not, it must be set to your voltage in accordance with the following direction.

Note:

Our warranty does not cover damage caused by excessive line voltage due to improper setting of the AC voltage selector switch.

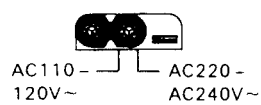
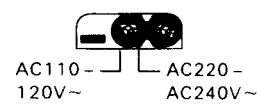


Fig. 1



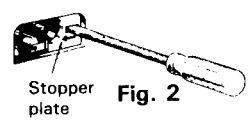


Fig. 2

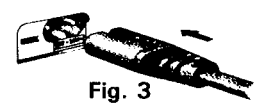


Fig. 3

1. Before plugging in this unit, make sure that the position of the AC Voltage Selector conforms to your line (mains) voltage. If not, it must be reset. See Figure 1.
2. To reset the selector, slide the stopper plate to the opposite side with a screwdriver or other pointed tool. See Figure 2.
3. Insert the power cord securely. See Figure 3.

Safety precautions

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

	CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE, REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.
	THE LIGHTNING FLASH WITH ARROWHEAD SYMBOL, WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE USER TO THE PRESENCE OF UNINSULATED "DANGEROUS VOLTAGE" WITHIN THE PRODUCT'S ENCLOSURE THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK TO PERSONS.
	THE EXCLAMATION POINT WITHIN AN EQUILATERAL TRIANGLE IS INTENDED TO ALERT THE USER TO THE PRESENCE OF IMPORTANT OPERATING AND MAINTENANCE (SERVICING) INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE APPLIANCE.

IMPORTANT SAFEGUARDS

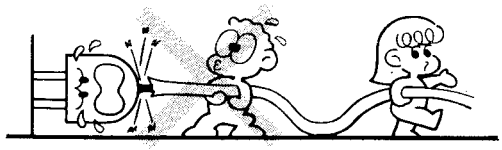
⚠ Caution : Read this page carefully to ensure safe operation.

Please read all of the safety and operating instructions before operating this unit. For best results, follow all warnings placed on the unit and adhere to the operating and use instructions. These safety and operating instructions should be retained for future reference.

1. **Power sources** — The unit should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

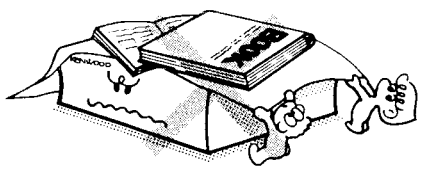
2. **Power-cord protection** — Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, pay particular attention to cords at plugs, convenience receptacles, and the point where they exit from the unit.

Never pull or stretch the cord.

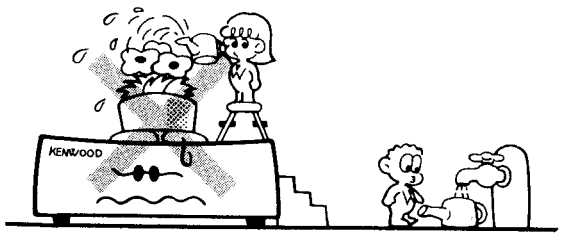


3. **Grounding or polarization** — The precautions should be taken so that the grounding or polarization means of this unit is not defeated.

4. **Ventilation** — The unit should be situated so that its location or position does not interfere with its proper ventilation.
To maintain good ventilation, do not put records or a table-cloth on the unit. Place the unit at least 10 cm away from the walls.
Do not use the unit on a bed, sofa, rug or similar surface that may block the ventilation openings.

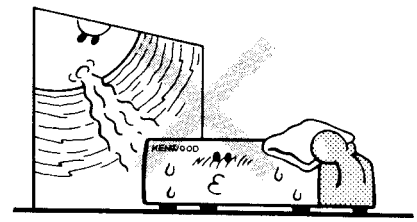


5. **Water and moisture** — The unit should not be used near water — for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

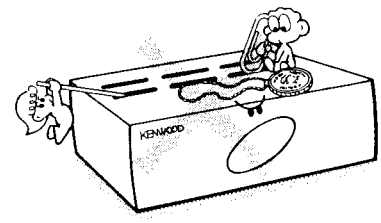


6. **Temperature** — The unit may not function properly if used at extremely low, or freezing temperatures. The ideal ambient temperature is above +5°C (41°F).

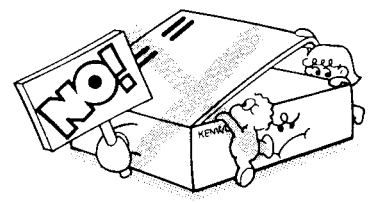
7. **Heat** — The unit should be situated away from heat sources such as radiators, heat registers, stoves, or other units (including amplifiers) that produce heat.



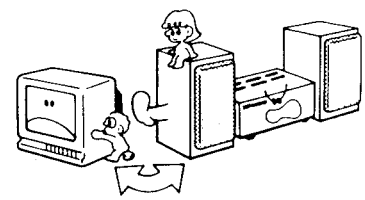
8. **Electric shock** — Care should be taken so that objects do not fall and liquid is not spilled into the enclosure through openings. If a metal object, such as a hair pin or a needle, comes into contact with the inside of this unit, a dangerous electric shock may result. For families with children, never permit children to put anything, especially metal, inside this unit.



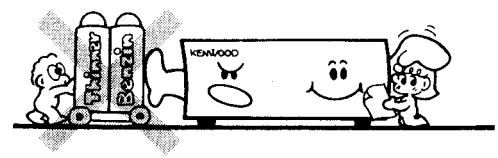
9. **Enclosure removal** — Never remove the enclosure. If the internal parts are touched accidentally, a serious electric shock might occur.



10. **Magnetic fields** — Keep the unit away from sources of magnetic fields such as TV sets, speaker systems, radios, motorized toys or magnetized objects.



11. **Cleaning** — Do not use volatile solvents such as alcohol, paint thinner, gasoline, or benzine, etc. to clean the cabinet. Use a clean dry cloth.

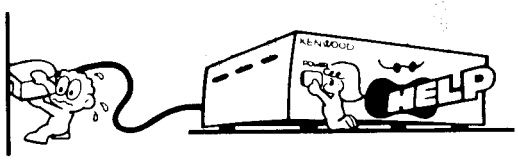


12. **Carts and stands** — An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

13. **Nonuse periods** — The power cord of the unit should be unplugged from the outlet when left unused for a long period of time.

14. **Abnormal smell** — If an abnormal smell or smoke is detected, immediately turn the power OFF and pull out the power cord. Contact your dealer or nearest service center.

POWER OFF!

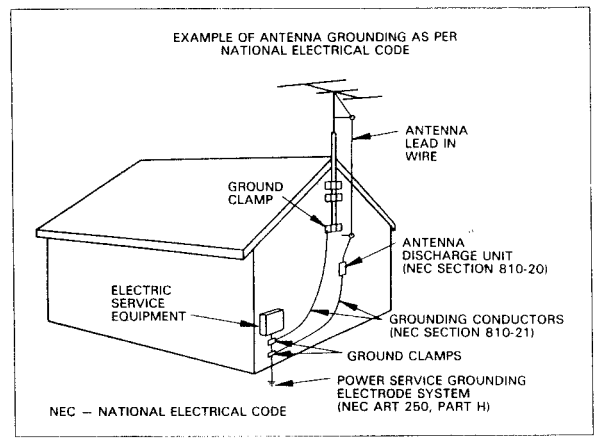


15. **Damage requiring service** — The unit should be serviced by qualified service personnel when:

A. The power-supply cord or the plug has been damaged; or
B. Objects have fallen, or liquid has been spilled into the unit; or
C. The unit has been exposed to rain; or
D. The unit does not appear to operate normally or exhibits a marked change in performance; or
E. The unit has been dropped, or the enclosure damaged.

16. **Servicing** — The user should not attempt to service the unit beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

17. **Outdoor antenna grounding** — If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. Section 810 of the National Electrical Code, ANSI/ NFPA No. 70—1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure.

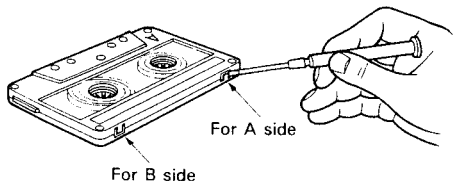

EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE
ANTENNA LEAD IN WIRE
GROUND CLAMP
ANTENNA DISCHARGE UNIT (NEC SECTION 810-20)
ELECTRIC SERVICE EQUIPMENT
GROUNDING CONDUCTORS (NEC SECTION 810-21)
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (NEC ART 250, PART H)
NEC – NATIONAL ELECTRICAL CODE

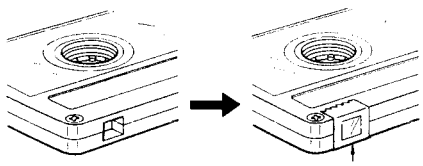
18. **Power lines** — An outdoor antenna should be located away from power lines.

Notes:
1. **Item 3 is not required except for grounded or polarized equipment.**
2. **Item 17 and 18 are not required except for units provided with antenna terminals.**
3. **Item 17 complies with UL in the U.S.A.**

■ Notes on cassette tape

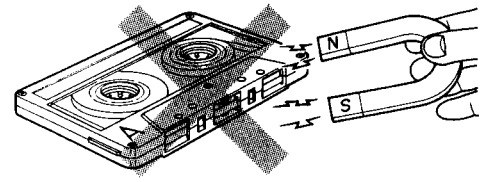
- **Safety tab** (accidental erasure prevention tab):
  After an important recording has been finished, break the safety tab, to prevent the recorded contents from being erased or recorded on accidentally.



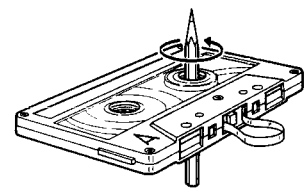


To re-record Cover with adhesive tape.

- **To store cassette tapes:**
  Do not store the tapes in a place which is subject to direct sunlight, or near equipment that generates heat. Keep the cassette tapes away from any magnetic field.



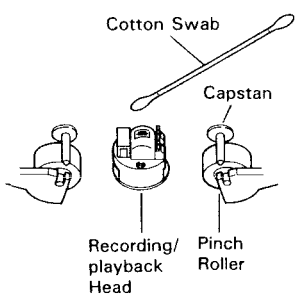
- **When there is slack in the tape:**
  In such a case, insert a pencil into the reel hole and wind the reel hub to remove the slack.



Notes:

1. **120-minute cassette tape:**
   Since a 120-minute cassette tape is very thin, the tape could adhere to the pinch roller or be easily cut. It is recommended that these tapes not be used with this unit to prevent possible damage.
2. **Endless tapes:**
   Do not use an endless tape, as this could damage the mechanism of the unit.

■ Cleaning the head section



Cleaning the heads and peripheral components:

For maintaining the best condition of the deck and for longer service life, always keep the erase head, recording/playback head, capstan and pinch roller clean. To clean them, perform the following:

1. Open the cassette holder
2. Using a cotton swab dipped in alcohol, clean the erase head, recording/playback head, capstan and pinch roller carefully.

Demagnetizing the head

When the recording/playback head is magnetized, the sound quality will be detariorated. In such a case, demagnetize the head using a commercially available demagnetizer (head eraser).

Note:

There are precisely aligned parts around the heads, including the tape guides.
When cleaning, pay special attention so as not to apply shock to them.

■ Beware of condensation

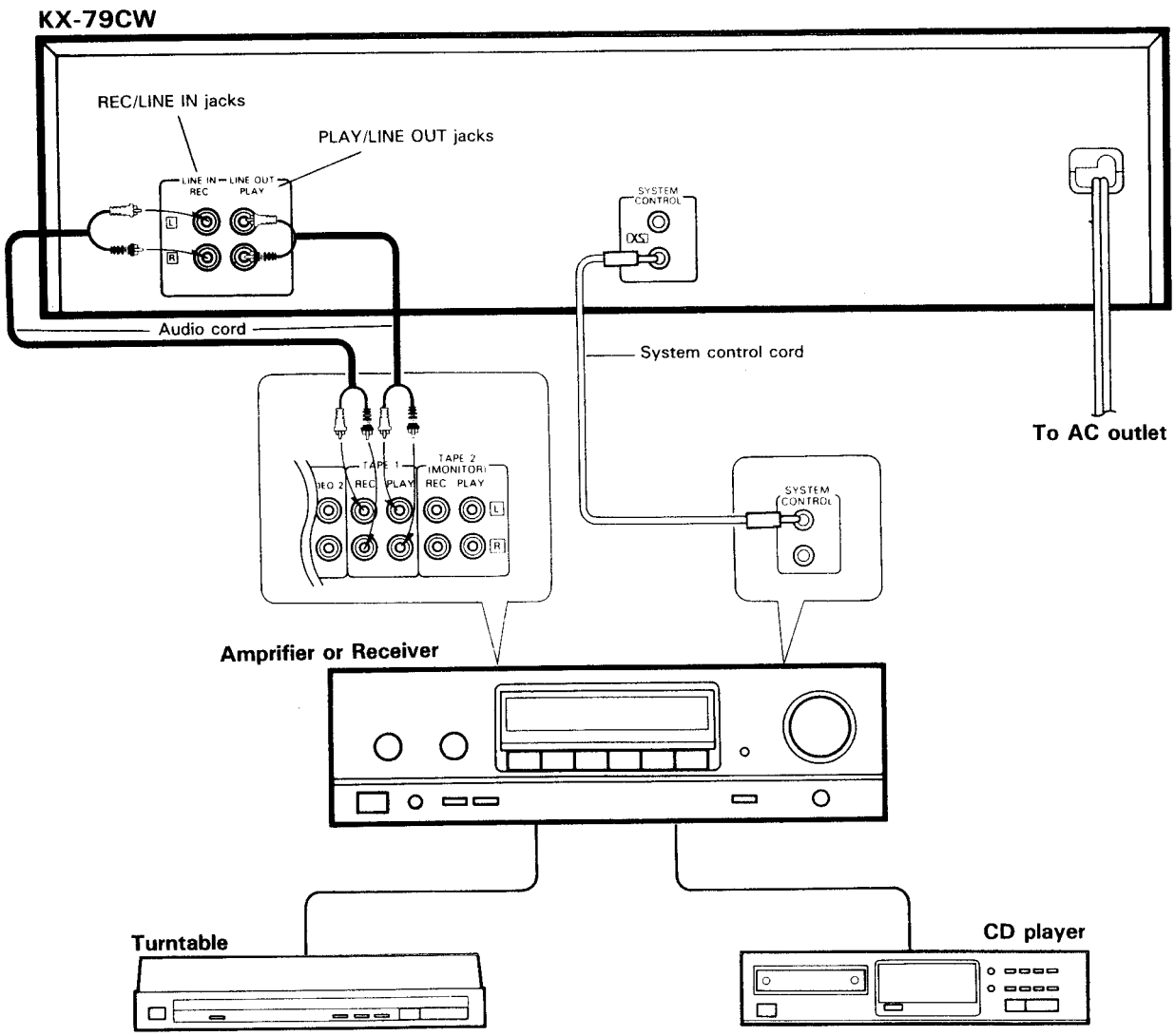
When vapor comes into contact with the surface of cold material, water drops are produced.
If condensation occurs, correct operation may not be possible, or the unit may not function correctlly.
This is not a malfunction, however, and the unit should be dried. (To do this, turn the POWER switch ON and leave the unit as it is for several hours.)

Be especially careful in the following conditions:

- When the unit is brought from a cold place to a warm place, and there is a large temperature difference.
- When a heater starts operating.
- When the unit is brought from an air-conditioned place to a place of high temperature with high humidity.
- When there is a large difference between the internal temperature of the unit and the ambient temperature, or in conditions where condensation occures easily.

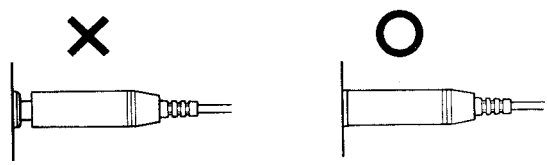
System connections

Make connection as shown in the diagram below. When connecting the related system components, refer also to the instruction manuals of the related components.



System control connection (Except for some areas.)

When connected to an amplifier or receiver having KENWOOD SYSTEM CONTROL terminals, system operation such as remote control is made possible. For details, refer to the instruction manual of the amplifier or receiver.
If your amplifier or receiver is not equipped with the SYSTEM CONTROL Terminals, do not connect anything to any SYSTEM CONTROL Terminal.
Do not connect the unit in any system configuration other than specified.

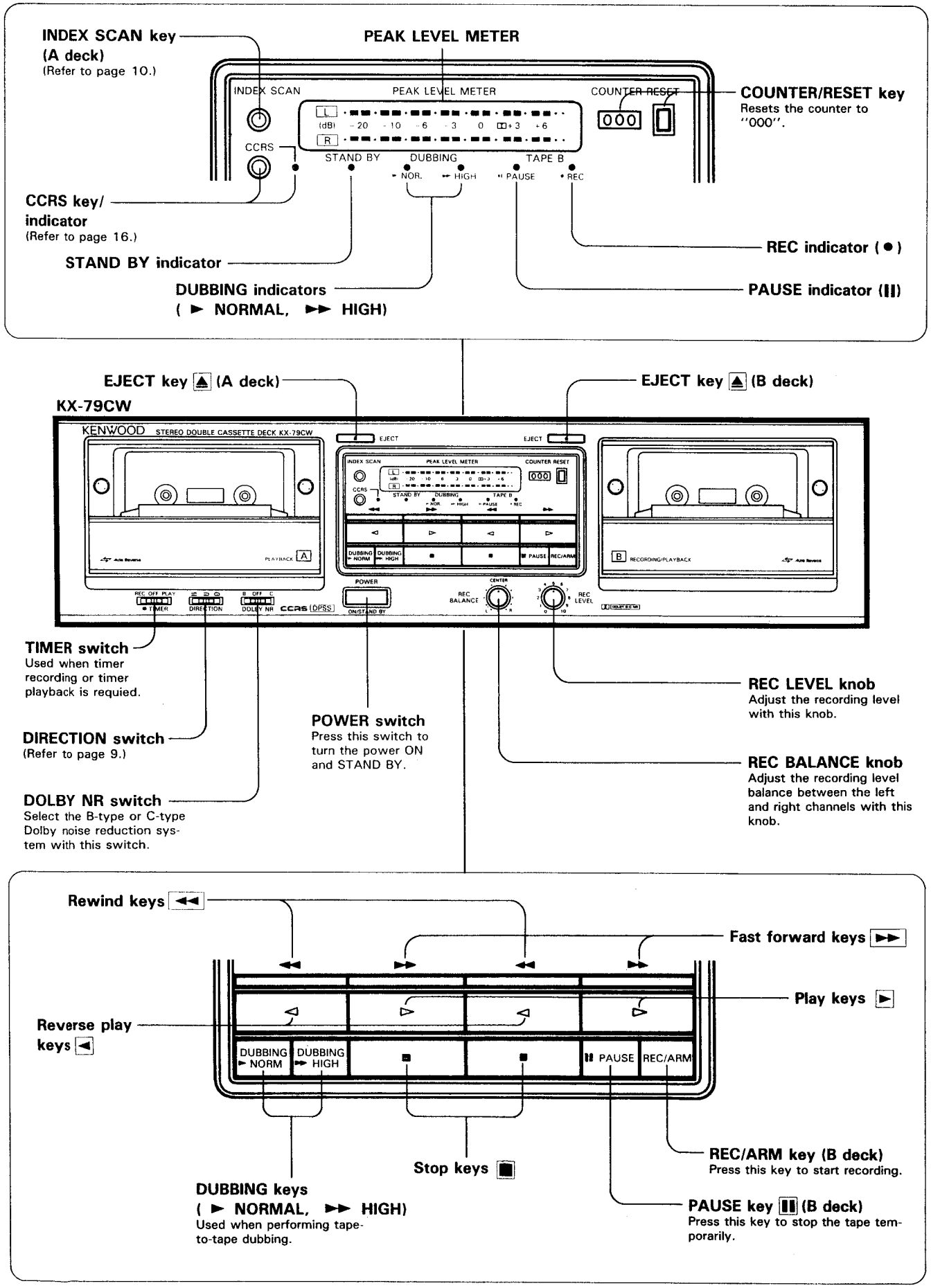


- Be sure to insert the System Control cord plugs fully into the SYSTEM CONTROL terminals.
- If the system control cord and audio cords are not connected properly, the automatic system governing remote control and system functions will not operate.

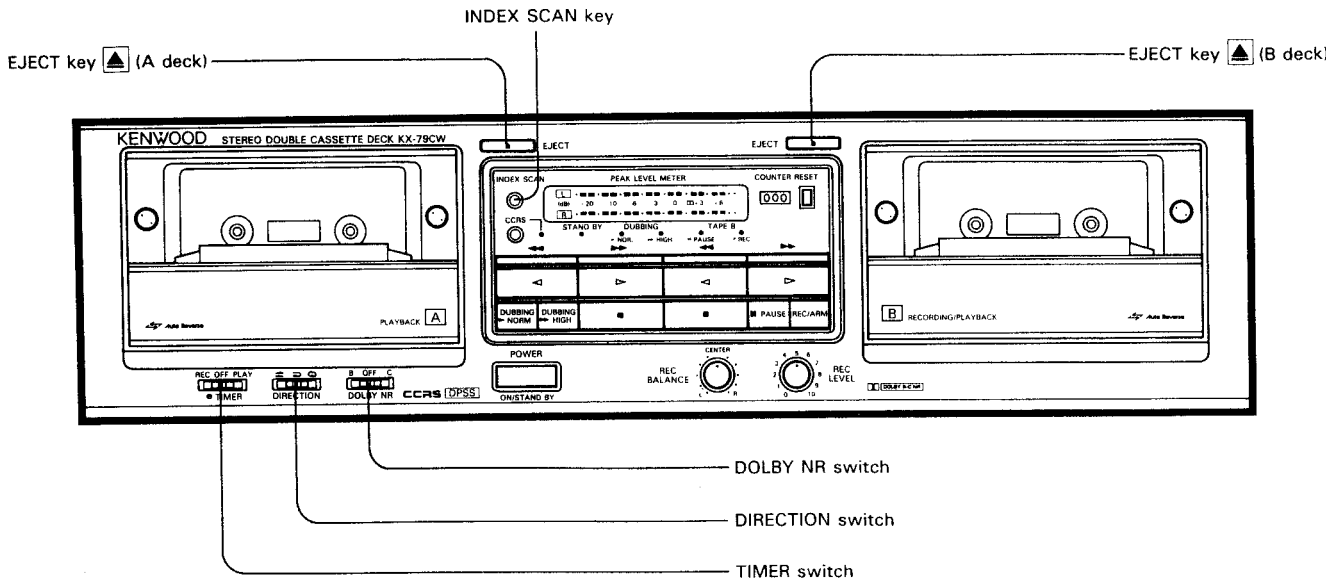
Notes:

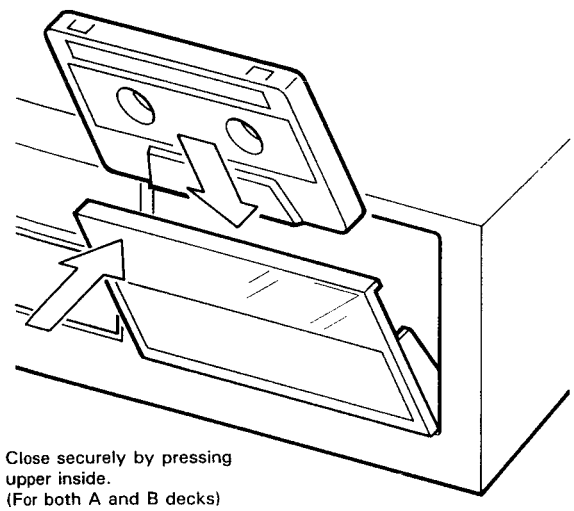
1. **Connect all cords firmly. If connections are loose there could be loss of sound or noise produced.**
2. **When plugging and unplugging connection cords after connections are complete, be sure to first remove the power cord from the AC outlet. Plugging/unplugging connection cords without removal of the power cord can cause malfunctions or damage to the unit.**

Controls and indicators



Listening to cassette tapes





Close securely by pressing upper inside.
(For both A and B decks)

■ Tape playback operation

1. Set the deck's TIMER switch to OFF.

2. Press the EJECT key ▲ for the deck to be used for playback.

3. Insert a cassette and close the cassette holder securely.
- The optimum playback condition is set automatically according to the type of tape, i.e. Metal, chrome (CrO_2) or normal.

4. Set the DOLBY NR switch according to the NR mode of the cassette tape.

5. Set the DIRECTION switch according to the desired playback direction.
One-way playback ..... ⇄
Tape stops at the end of one side.
Two-way playback..... ⊃
Tape stops after two sides have been played.
Endless playback..... ↻
Tape playback continues until the stop key ■ is pressed.

6. Press the play ► or reverse play ◄ key.
- The playback direction indicator lights and playback starts.
- The peak level meter lights in accordance with the contents of the tape.

■ Operation of fast forward and rewind

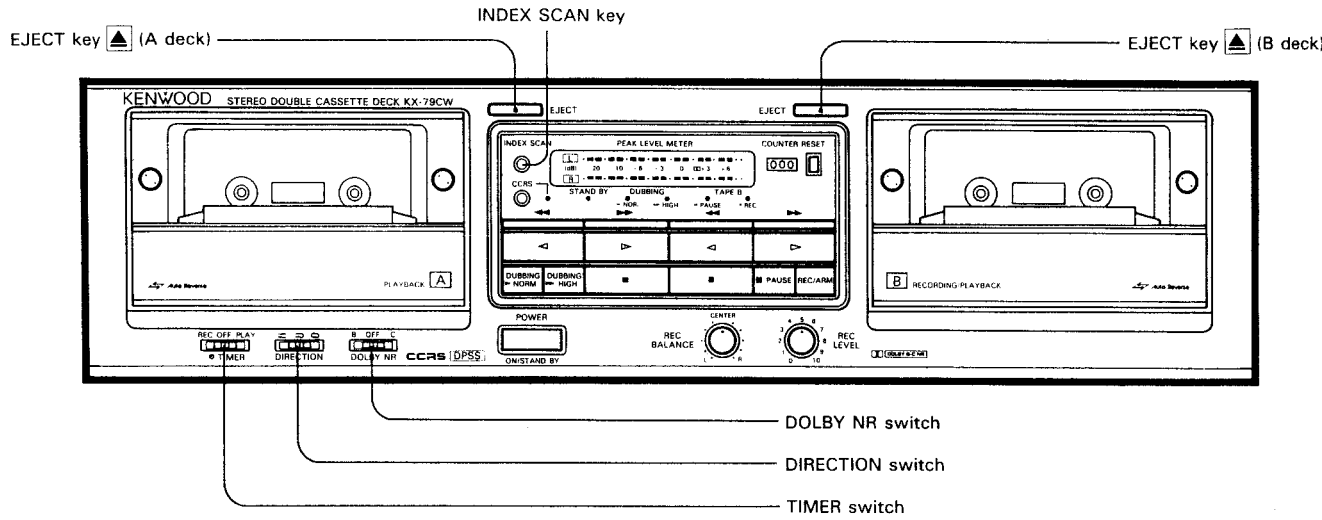
Press either the ◄◄ or ►► key when in the stop mode.
- The tape is fast-forwarded or rewound depending on the key pressed.
- When ◄◄ or ►► key is pressed during PLAY, DPSS operates (see page 11).

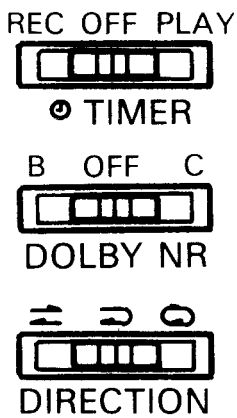
■ Stopping playback

Press the stop key ■.
- Playback is stopped.
- The tape is stopped automatically at the end of a one-side or two-side relay playback, or when it has been completely wound forward or rewound.

STAND BY mode of POWER switch
When the power cord of this system is plugged into an AC outlet, the STAND BY indicator lights up regardless of the ON/OFF setting of the POWER switch. This indicates that a small amount of current is being supplied to the unit to back up the memory contents.
This mode is referred to as the Stand By mode. While the STAND BY indicator is lit, the power can be switched ON/OFF from the remote control unit with the amplifier connected with the system control cord.

Listening to cassette tapes





■ Relay playback operation

Tapes in the two decks (A and B) can be played alternately and repeatedly.

1. **Set the deck's TIMER switch to OFF.**
2. **Press the EJECT key ▲ for each deck.**
3. **Insert a cassette tape in each deck and close the cassette holders securely.**
4. **Set the DOLBY NR switch according to the NR mode of the cassette tapes.**
5. **Set the DIRECTION switch according to the desired playback direction.**
   One-way relay playback..... ⇄
   One side of A deck, B deck is played.
   Two-way relay playback ..... ⊃
   Both sides of A deck, B deck are played.
6. **Press the play ► or reverse play ◄ key of the deck desired to be played first.**

■ Index scan (A deck only)

1. **Press the INDEX SCAN key. The tape is rapidly advanced while the beginning of each tune is played back for about 10 seconds.**
2. **When the desired tune is found, press the play ► or reverse play ◄ key according to the direction of tape travel. Normal playback operation will resume.**

Notes:

1. **The direction of the index scan is indicated by the direction indicators. To change the direction of index scan, press the play ► or reverse play ◄ key, then press the INDEX SCAN key.**
2. **When the DIRECTION switch is set to the reverse mode (⊃) or endless mode (↻), index scan of both sides is carried out.**

DPSS (direct program search system)

DPSS (direct program search system)
The DPSS function of the cassette deck allows you to perform the following convenient operations easily by a touch of the corresponding operation key. (Common to A and B decks).

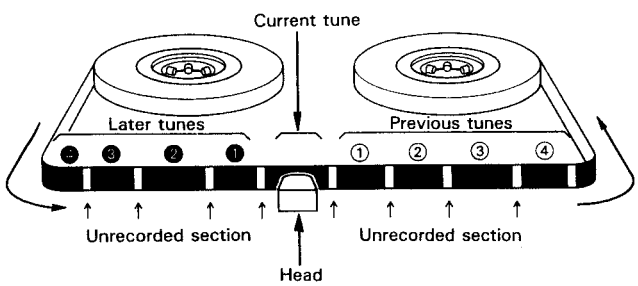
1. **Skip play**
2. **Single-tune repeat playback**
3. **Rewind and auto play**
4. **Re-Rec standby (when a recording needs to be restarted from the beginning)**
5. **Dash & play (when playing while fast-forwarded through non-recorded sections of more than 10 seconds)**

DPSS and non-recorded sections of tape (blank intervals)

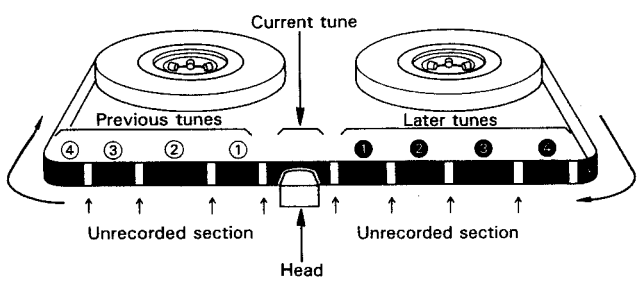
The DPSS function works by detecting a non-recorded section (blank) of more than 4 seconds between tunes.
When making a new recording on a tape, the blank sections between programs should be made according to "How to provide non-recorded blanks between programs."
The function may not operate correctly when the following types of tape are used.

1. Tapes with conversation, etc. in which the sound is interrupted for more than 4 seconds.
2. Tapes having very low level sections or non-recorded sections in the middle of a tune, such as in some classical pieces.
3. Tapes in which high level noise is recorded between tunes.
4. Tapes having blank sections of less than 4 seconds between tunes.
5. Tapes recorded at an excessively low level.

Forward DPSS selection (►)



Reverse DPSS selection (◄)



■ Skip play in the forward direction

Perform the following to play a tune which is several tunes ahead of the one currently being played.

During forward playback, press the fast forward key [►►].

During reverse playback, press the rewind key [◄◄].

- The number of tunes skipped (maximum: 16) is equal to the number of times the key is pressed, after which playback of the target tune starts.

■ Skip play in the reverse direction

To play a tune located before the one currently being played, perform the following.

During forward playback, press the rewind key [◄◄].

During reverse playback, press the fast forward key [►►].

- The number of tunes skipped (maximum: 16) is equal to the number of times the key is pressed, after which playback of the target tune starts.

Notes:

1. **When the DIRECTION switch is set to "⇉" (reverse) or "⟲" (endless), skip play can extend to the other side of the tape.**
2. **If the rewind key [◄◄] is pressed immediately after the start of a program, the current tune could be discounted and more tunes could be skipped than is desired.**

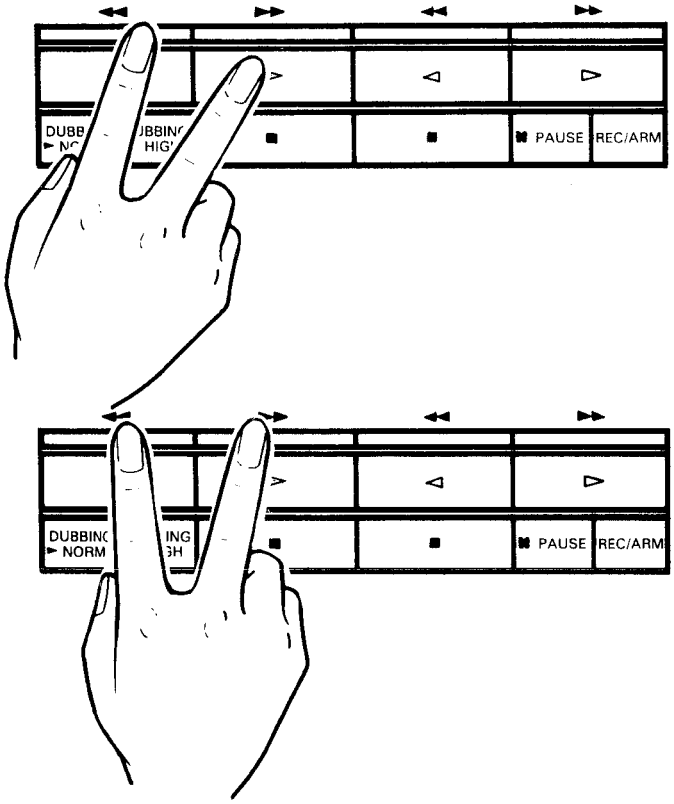
■ Single-tune repeat playback

This function is used to play back a desired tune repeatedly.

While the forward side is being played back, press the play key [►] again.

While the reverse side is being played back, press the reverse play key [◄] again.

- The designated tune will be played back repeatedly 16 times, then the deck enters the normal playback mode.
- To release single-tune repeat play, press the stop key [■].



■ Rewind & auto play

This function is used to automatically play the tape from the first tune after rewinding.

To play the forward side of the tape, press the play key ▶ and rewind key ◀◀ simultaneously.

To play the reverse side of the tape, press the reverse play key ◀ and fast forward key ▶▶ simultaneously.

■ Dash & play

This function allows you to play a tape repeatedly by fast-forwarding through any non-recorded blank of more than 10 seconds on the tape.

1. **Set the DIRECTION switch according to the desired play-back direction.**

   "⇄" One side will be repeated 8 times.
   "↻" Both sides will be repeated 8 times.

2. **Press the fast forward ▶▶ and rewind ◀◀ keys simultaneously.**
   - To cancel dash & play, press the stop key ■.

Notes:
1. **If a non-recorded section is less than 10 seconds, this function may not work correctly.**
2. **If cassette tapes are loaded in both the A and B decks with the DIRECTION switch set to "↻" (reverse), when the dash & play operation finishes on one deck, it is then carried out on the other deck.**

■ Re-Rec standby (B deck only)

This function allows you to interrupt recording, return the tape to the position where recording started, and put the deck in the stop mode. This is useful when you have started a recording by mistake.
(In this case, a four second blank section is required before the position at which the recording is to start).

During forward recording, press the rewind key ◀◀.

During reverse recording, press the fast forward key ▶▶.
- Recording is interrupted, the tape is rewound to the correct starting point, a non-recorded blank of 2 seconds is made after the end of the previous program, and the deck enters the stop mode.

When starting to re-record

1. **Press the REC/ARM key twice in succession to make a new non-recorded blank.**

2. **Press the REC/ARM key again**
   - This starts a new recording.

■ How to provide non-recorded blanks between programs

To make a non-recorded blank of about 4 seconds:

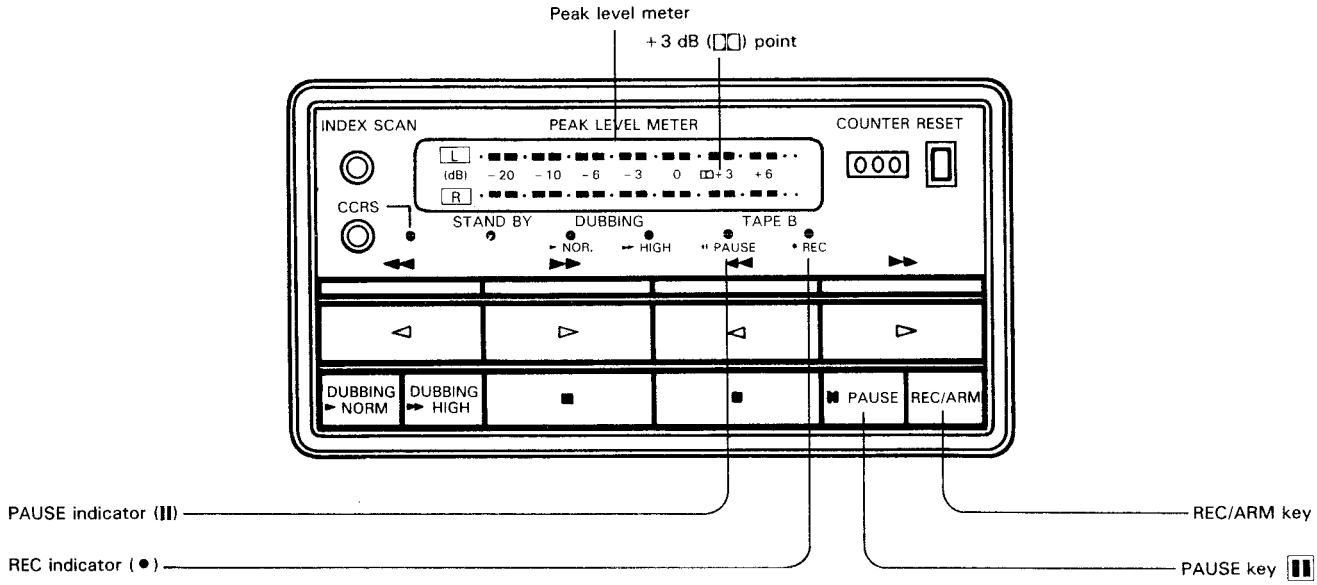
Press the REC/ARM key twice in succession.
- After leaving a non-recorded blank of about 4 seconds, the deck enters the record-pause mode.

To make a non-recorded blank during recording:

Press the REC/ARM key once during recording.
- After running to make a non-recorded blank of about 4 seconds from the point where the key is pressed, the deck enters the record-pause mode.

Note:
For normal recording operations, see the "How to record" section which starts on page 13.

How to record (for B deck only)



■ Preparation for recording

Preparatory settings

1. Set the TIMER switch to OFF.

2. Press the EJECT key ⏏ for B deck.

3. Insert a cassette, and close the cassette holder securely.

- The cassette deck automatically selects the standard recording conditions for chrome (CrO_2) tape, Metal tape, or normal tape.

4. Set the DIRECTION switch to the desired recording direction.

One-side recording ..... ⇄
Two-side recording ..... ⊃

5. When DOLBY NR is required, set the DOLBY NR switch to B or C.

■ Usual recording operations

Recording level adjustment

After each of the settings is completed set the recording level.

1. Select the recording source with the amplifier's input selector, and start playing the source.

2. Press the PAUSE key ⏸ and REC/ARM key simultaneously to put the deck in the record-pause mode.

3. While observing the peak level meter, adjust the recording level with the REC LEVEL knob and REC BALANCE knob so that the +3 dB (□□) indicator lights occasionally.

Starting recording

1. Press the REC/ARM key.
2. Play the recording source.

- To momentarily stop recording, press the PAUSE key ⏸.
- At the end of recording, press the stop key ■.
- The tape is stopped automatically at the end of the designated side for recording.

Use of the counter (for B deck only)

Press the counter's reset button before the start of recording to return the counter to 000. When recording stops before the end of a tape run, take note of the counter reading, and fast forward the tape to that position for subsequent recording.

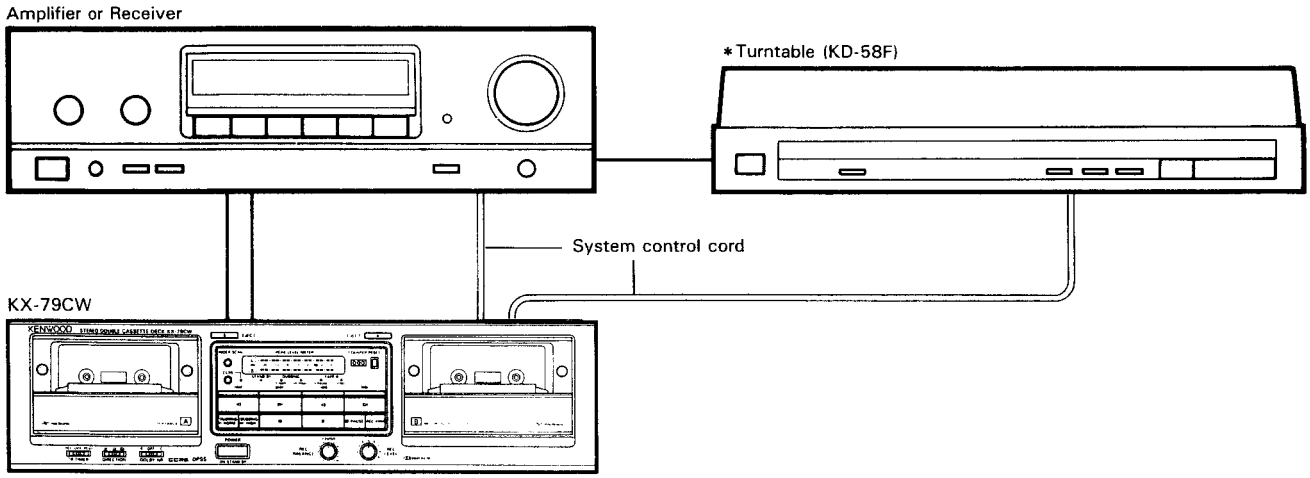
Dolby noise reduction system

The Dolby noise reduction system was developed to reduce the tape hiss noise generated during play back.
The optimum effect of the Dolby NR system is obtained when the same type NR system is used for both recording and playback. If a different type NR system is used, playback is not performed correctly. Make sure that the same type noise reduction system is used for both recording and playback.

Dolby B-type NR:
The most popular noise reduction system used in home audio components. Usually, Dolby NR system corresponds to B-type NR.

Dolby C-type NR:
Dolby C-type NR offers improved noise reduction performance over that of the Dolby B-type NR. It features a superior noise reduction effect. Use Dolby C-type NR to record or playback with this unit.
It is recommended that tapes recorded with the Dolby NR system be marked "B" or "C", so that they can easily be distinguished.

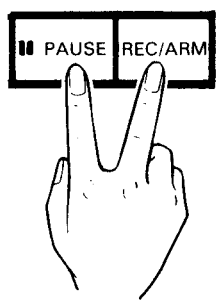
Synchro recording

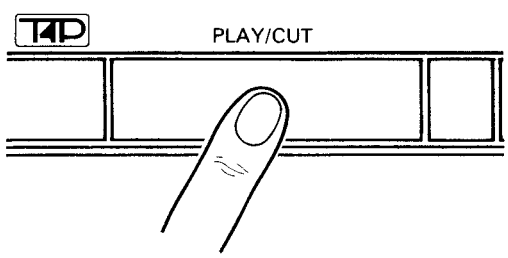


■ Synchro recording with the turntable unit

By connecting the turntable (optional) with the system control cord, tape recording can be started in synchronism with the start of record play.

1. **Make the cassette deck ready for recording following the procedure in the "Preparation for recording" section.**
2. **Place a record on the turntable.**
3. **Following the procedure in the "Recording level adjustment" section, play the turntable and adjust the recording level.**
   - When the PHONO input selector of the amplifier is pressed, the turntable starts play automatically.
4. **After adjusting the recording level, set both the cassette deck and turntable in the stop mode.**
   - If the recording level has been set based on experience, steps 3 and 4 are not necessary.
5. **Press the REC/ARM key while holding the PAUSE key ⏸ depressed.**





(*KD-58F)

Recording starts.

6. **On the turntable, press the PLAY/CUT key.**
   - The turntable will start play and, at the same time, the cassette deck will start recording.

■ To pause synchro recording temporarily:

Press the CUEING key of the turntable.

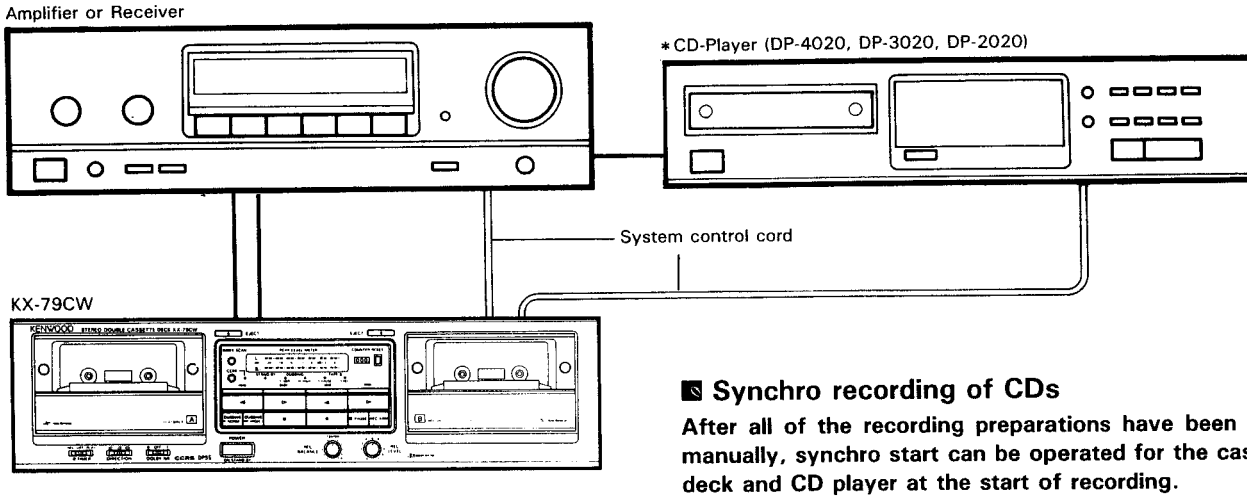
- The cassette deck will enter the record-pause mode after reserving a non-recorded blank of about 4 seconds.
- To resume recording press the CUEING key of the turntable again.

■ To stop synchro recording:

Press the PLAY/CUT key of the turntable.

- The turntable will stop record play, and the cassette deck will enter the stop mode after reserving a non-recorded blank of about 4 seconds.

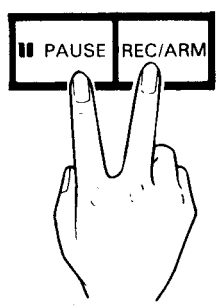
***IMPORTANT:**
This option may not be available in some areas. For details on options, consult your dealer.



■ Synchro recording of CDs

After all of the recording preparations have been made manually, synchro start can be operated for the cassette deck and CD player at the start of recording.

1. **Make the necessary preparations in accordance with the section entitled "Preparation for recording".**
2. **Load a CD into the CD player.**
3. **Follow the procedure in the "Recording level adjustment" section while playing the CD to set the recording level.**
   - CD play starts automatically when the amplifier's input selector is set to CD.
4. **After setting the recording level, stop both the deck and CD player.**
   - If you have experience in setting the recording level, you can skip steps 3 and 4.
5. **While pressing the PAUSE key [II], press the REC/ARM key.**
   - The deck enters the record-pause mode.

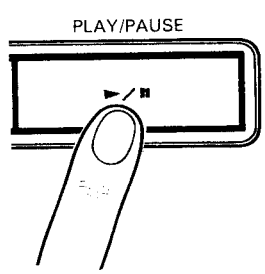


6. **Press the CD player's PLAY/PAUSE key [►/II].**
   - The cassette deck begins recording simultaneously with the start of CD playback.
   - At the end of CD playback, the cassette deck will enter the stop mode after reserving a non recorded blank of about 4 seconds.

■ Record-pause

Press the CD player's PLAY/PAUSE key [►/II].

- The deck makes a non-recorded blank of about 4 seconds, and goes into the record pause mode.
- Recording is resumed when the key is pressed again.



■ To stop recording

Press the STOP key [■] on the CD player.

- The CD player will stop playback, and the cassette deck will enter the stop mode after reserving a non-recorded blank of about 4 seconds.

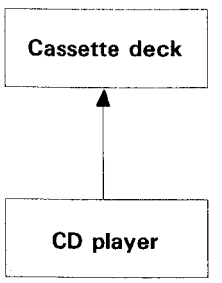
(*DP-4020, DP-3020, DP-2020)

Recording is started.

***IMPORTANT:**
This option may not be available in some areas. For details on options, consult your dealer.

CCRS (Computer-controlled CD Recording System)

When connected with a CD player provided with "[XS]" marking through the system control cord, this unit allows to used the CCRS (Computer-controlled CD Recording System), which starts recording automatically after setting the optimum recording level for the CD and tape to be used in recording.

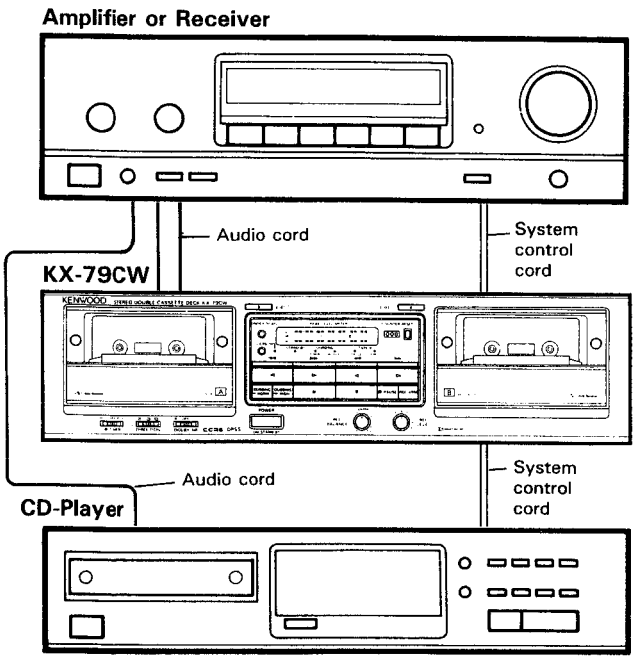


CCRS
Automatic recording level setting

■ CCRS (Computer-controlled CD Recording System)

When the CCRS key is pressed, the following operations occur automatically and CD sound is recorded on tape.

1. **The CD starts to be played, and the peak value is sampled from the levels of the signals on the CD.**
2. **The optimum recording level for the specific CD is determined and set based on the peak value sampled.**
3. **The recording preparation steps above take about 20 ~ 200 seconds, after which the actual recording starts.**
4. **After recording (when the CD player is stopped or when the tape has run out), both the cassette deck and CD player stop.**
   - With CD players equipped with the EDIT function, it is possible to make recordings in which the last songs on sides A and B are not cut off in the middle and in which the recording capacity of the tape is used to the fullest extent. (Models DP-4020, DP-3020, and DP-2020 only.)



■ CCRS recording

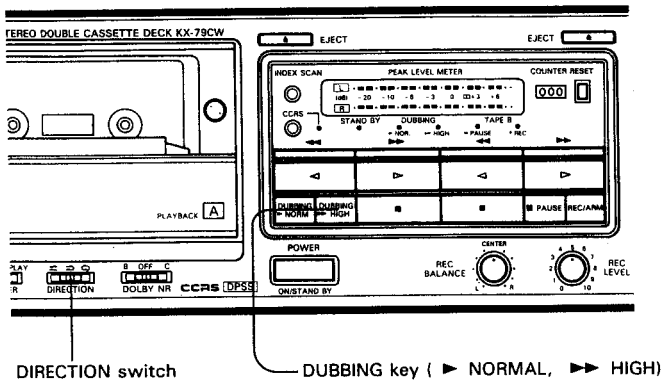
1. **Select the CD input with the input selector switch of the amplifier or receiver.**
2. **Load a CD into the CD player.**
3. **Insert the tape to be used for recording into deck B.**
4. **Press the CCRS key on the cassette deck.**
   - The CCRS indicator blinks, and recording begins after approximatery 20 ~ 200 seconds.
     (A non-recorded blank of about 8 seconds is created.)
   - When recording is completed, both the cassette deck and the CD player stop automatically.
5. **How to cancel CCRS**
   - ① **To cancel CCRS during the recording level setting operation, press the STOP key ■ of the CD player or the stop key ■ of the cassette deck.**
   - ② **To cancel after the completion of CCRS recording, press the OPEN/CLOSE key ▲ of the CD player.**
   - When the CCRS recording has completed, be sure to cancel CCRS and ensure that the CCRS indicator is extinguished.

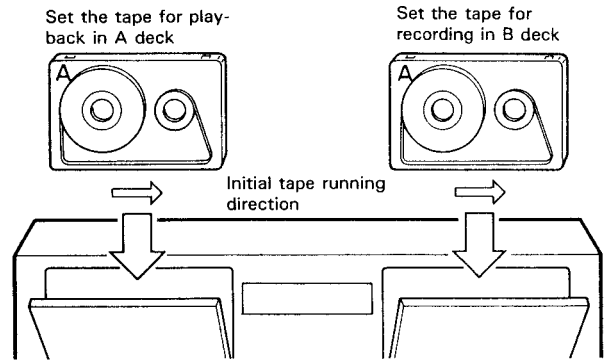
Notes:

1. **If the CCRS key is pressed during CD playback, playback stops and CCRS operation begins.**
2. **If the remaining amount of tape is small, CCRS operation may be canceled in mid-operation.**
3. **Once the CCRS recording level has been set, the recording level cannot be adjusted while the CCRS operation is being carried out.**
4. **The CCRS function sets the peak level for the entire CD in approx. 20 ~ 200 seconds. On very rare occasions, however, the function may not be able to set the optimum recording level. If this occurs, carry out recording manually referring to the "Usual recording operations" section.**
5. **The CCRS recording level setting is canceled when the OPEN/CLOSE key ▲ of the CD player is pressed or when the power is switched OFF.**

Dubbing operation (A→B deck only)

Dubbing is the operation for copying sound from a prerecorded tape to another tape.





■ Normal dubbing operation

1. Set tapes in both the A and B decks as shown in the figure.

2. Check that both the A and B deck tape direction indicators are set to the forward direction (►).

- If a reverse direction (◄) indicator is lit, set it to the forward direction (►) in the following manner.

1) Press the play key [►].
2) Press the stop key [■].
3) Press the rewind key [◄◄].

3. Set the DIRECTION switch to select the dubbing mode, either one side or both sides.

- One-side dubbing ..... Set to ⇄.
- Both-side dubbing ..... Set to ⇉.

4. Press the ► NORMAL key.

- Dubbing operation from A deck to B deck starts.
- During dubbing, when any of the operation keys of B deck is pressed, the dubbing operation will be released. B deck will enter the operation corresponding to the key pressed, and A deck will enter stop mode.
- During dubbing, when any of the operation keys of A deck is pressed, the dubbing operation stops temporarily. A deck will enter the operation corresponding to the key pressed and B deck will enter record-pause mode after leaving a non-recorded section of about 4 seconds on the tape.

5. To stop dubbing, press the stop key [■] of B deck.

- Both the A and B decks will enter stop mode.

Pause during dubbing

Press the ► NORMAL key.

- B deck enters record-pause mode after leaving a non-recorded section of about 4 seconds on the tape.
- To restart dubbing, press the ► NORMAL key again.

■ High-speed dubbing operation

1, 2, 3. Perform the preparations for dubbing according to the operations in steps 1 to 3 of the "Normal dubbing operations" section.

4. Press the ►► HIGH key.

- The dubbing operation will be performed in half of the normal dubbing time. At this time, pressing the ►► HIGH key again will leave a non-recorded section of about 6 seconds on the tape.

5. To stop high-speed dubbing, press the stop key [■] of B deck.

- Both the A and B decks will enter stop mode.

Pause during dubbing

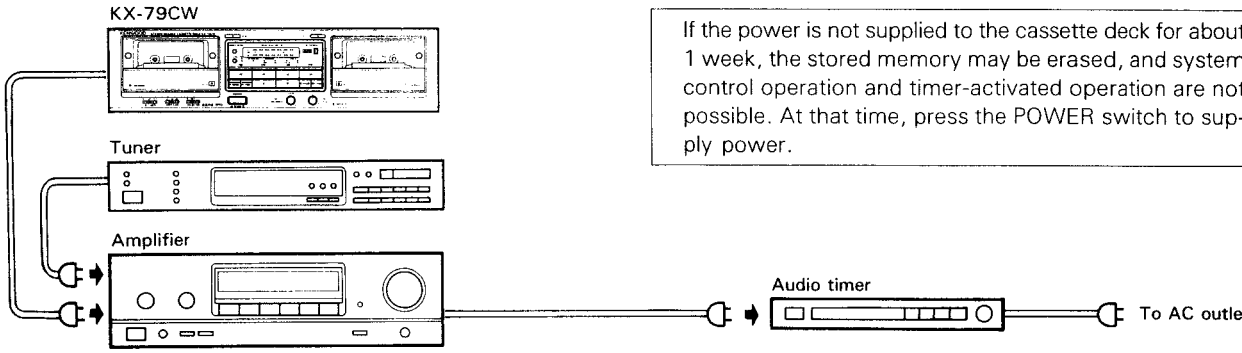
Press the ►► HIGH key.

- B deck enters record-pause mode after leaving a non-recorded section of about 6 seconds on the tape.
- To restart dubbing, press the ►► HIGH key again.

Notes:

1. **The recording level cannot be adjusted for dubbing. Insert a tape which was recorded at an optimum recording level in the A deck.**
2. **The system is deactivated during dubbing operation with the result that the dubbed version features the same noise reduction as the original.**
   Example)
   If the A deck tape was recorded using Dolby B NR, the tape recorded in the B deck will also be recorded using Dolby B NR.
3. **Repeat dubbing leads to degradation of sound quality. It is recommended that the prerecorded tape in A deck be an original (first generation tape).**
4. **When a TV set is placed near the system, the result of high-speed dubbing could contain noise from the TV. To avoid this, place the TV as far as possible from the system.**
5. **If the prerecorded tape was recorded at a relatively high recording level, the result of high-speed dubbing could be poor sound quality. Use normal dubbing with such tapes.**

Timer stand-by operation

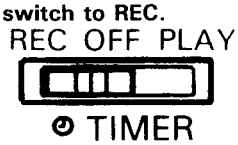


If the power is not supplied to the cassette deck for about 1 week, the stored memory may be erased, and system control operation and timer-activated operation are not possible. At that time, press the POWER switch to supply power.

By using the built-in TIMER STAND-BY mechanism in combination with an audio timer (available from many dealers), the deck can begin to record or play at any desired time.

■ Timer recording of radio broadcasts

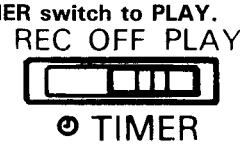
1. **Connect the power cords to the components and set the timer so that power is supplied to each component. (Timer setting procedures vary with the type of timer used. Follow the instructions of the timer's manual.)**
2. **Turn on the power switches in the components to be used for recording.**
3. **Tune in the desired station and set the recording level.**
4. **Set the volume control of the amplifier to its minimum setting.**
5. **Set the timer to the required time referring to the timer's instruction manual so that the power will be switched ON at the preset time.**
6. **Load a tape for recording into B deck.**
7. **Set the DOLBY NR switch to B or C if the recording is to be made using the noise reduction system.**
8. **Set the TIMER switch to REC.**



9. **Power to the components will be switched ON at the preset time and recording will start.**
10. **Recording stops when the end of the tape is reached.**

■ Timer playback

1. **Connect the timer as described in the "Timer recording of radio broadcasts" section.**
2. **Set the timer so that power is supplied to each of the components.**
3. **Turn on the power switches of the components to be used for playback.**
4. **Load a recorded tape and set each switch referring to the "Tape playback operation".**
5. **Adjust the volume control of the amplifier.**
6. **Rewind the tape to the start.**
7. **Set the timer to the required time.**
8. **Set the TIMER switch to PLAY.**



9. **The tape will automatically start playback at the preset time.**
10. **The relay playback from B deck to A deck can be also setting the DIRECTION switch to normal mode (⇉) or reverse mode (⇇) position. (Refer to the "Relay playback operation".)**
    - If tapes are loaded into both the A and B decks, timer playback will begin with the B deck.

Tuner models KT-89 and KT-2020(L) incorporate a built-in timer. For instructions regarding connection and operation, see the Instruction Manual supplied with the tuner. The KT-89 and KT-2020(L) models may not be available in some areas. For details, consult your dealer.

Notes:

1. **To ensure that the cassette deck's automatic shut-off switch operates before the power is shut off, set the timer so that it operates for a little longer than the playing time of the tape.**
2. **When operating the unit other than the CD player using an audio timer, be sure to remove the disc from the CD player.**
3. **Do not use a timer for the dubbing procedure.**

In case of difficulty

What appears to be a malfunction may not always be serious. If your unit should not perform as expected, consult the table below to see if the problem can be corrected before seeking help from your dealer or service representative.

Symptom	Cause	Remedy
Recording is impossible by pressing the REC/ARM key.	• The erase protection tab on the cassette shell is broken.	• Use a cassette which has its protection tab intact. (When recording using a cassette with a broken tab, cover the hole with adhesive tape.)
	• Cassette holder is not closed completely.	• Close the cassette holder completely.
	• Record input level knob is set to its minimum position.	• Refer to the "How to record" section.
	• The amp's input selector is set to TAPE A or TAPE B.	• Set the amp's selector to the recording source you want.
	• Tape is wound to one side.	• Set the direction indicator to the right direction.
Sound is not heard even when the playback key ▶ is pressed.	• Audio cords are connected incorrectly.	• Refer to the "System connections" section.
	• Head is dirty.	• Refer to the "Cleaning the head section".
	• Tape cannot be advanced due to uneven winding.	• Replace the cassette.
	• Unrecorded tape is used.	• Use a recorded tape.
Too noisy.	• Head is magnetized.	• Demagnetize the head using head eraser.
	• Noise is induced from external equipment.	• Keep the unit away from other electrical equipment.
	• Recording level is too low.	• Refer to the "How to record" section.
	• DOLBY NR encoded tape is played back with DOLBY NR switch OFF.	• Set the DOLBY NR switch to B or C. It is recommended to always perform recording with the DOLBY NR switch set to B or C.
Playback or recording starts when the power is turned ON.	• TIMER switch is set to PLAY or REC.	• Set the TIMER switch to OFF when the timer-playback or timer-recording function is not used.
Operation is impossible by pressing any of the operation keys.	• Cassette holder is not closed completely.	• Close the cassette holder completely.
	• An operation key is pressed immediately after the cassette holder is closed.	• Wait a few seconds after closing the cassette holder before pressing an operation key.
	• The operation key is pressed immediately after the power is turned ON (before 3 seconds have elapsed).	• After 3 seconds have elapsed after the power is turned ON, press the operation key.
	• Cassette tape is not loaded.	• Load a cassette.
	• The tape cannot be wound (advanced) because the tape is wound unevenly.	• Replace the cassette.
DPSS does not function correctly.	• An unsuitable tape having short blank sections between tunes is used.	• Refer to the "DPSS" section.
CCRS does not operate.	• A recordable tape is not loaded in Deck B.	• Insert a recordable tape in Deck B.
	• CD is not loaded in CD player.	• Load a disc correctly into the CD player, and press the CCRS key.
	• CD surface is dirty.	• Clean the CD, load it into the CD player and press the CCRS key.

Notes:

- **Depending on the type of cassette tape, noise will sometimes be heard when the tape stops automatically. This is not a malfunction of the unit, but is caused to ensure the certain transport of the tape.**
- **120-minute cassette tapes are not recommended because they are too thin and may be damaged by repeated use.**
- **As this system uses microcomputers, it is open to interference from external noise, and may sometimes not function properly. In such a case, unplug the power cord once, and then plug it in again.**
- **Do not use contact cleaners because it could cause a malfunction. Be specially careful against contact cleaners containing oil, for they may deform the plastic components.**

Specifications

Track System ..... 4-track, 2-channel stereo, recording/playback
Recording System ..... AC bias system (Bias frequency: 105 kHz)
Heads ..... Playback/record head × 1
Playback head × 1
Erasing head × 1
Motor ..... DC motor × 2
Fast Winding Time ..... Approx. 90 seconds with C-60 tape
Frequency Response (±6 dB) – 20 dB recording:
Normal Tape ..... 20 Hz to 15,000 Hz
CrO_2 Tape ..... 20 Hz to 16,000 Hz
Metal Tape ..... 20 Hz to 16,000 Hz
Signal-to Noise Ratio:
Dolby C Type NR ON .. 72 dB (Normal tape)
Dolby B Type NR ON .. 65 dB (Normal tape)
Dolby NR OFF ..... 57 dB (Normal tape)

Harmonic Distortion ..... Less than 0.6% (at 1 kHz, 0 dB with normal tape)
Wow and Flutter ..... 0.08% (W.R.M.S), ±0.22% (DIN)
Input sensitivity/ Impedance:
LINE IN ..... 77.5 mV/50 kΩ
Output Level/ Impedance:
LINE OUT ..... 270 mV/3.9 kΩ

[GENERAL]
Power Consumption ..... 15 W
Dimensions ..... W: 440 mm (17-5/16″)
H: 119 mm (4-11/16″)
D: 268 mm (10-9/16″)
Weight (Net) ..... 4.6 kg (10.1 lb)

Note:
KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

For the U.S.A.
FCC WARNING:

This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

NOTE:

This equipment has been tested and found to comply with the limits for a CLASS B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment may cause harmful interference to radio communications, if it is not installed and used in accordance with the instructions. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—— Reorient or relocate the receiving antenna.
—— Increase the separation between the equipment and receiver.
—— Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
—— Consult the dealer or an experienced radio/TV technician for help.

For CANADA
DOC REGULATION

"This digital apparatus does not exceed the CLASS B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian department of communications."

Note:

The unit's power supply is secondarily connected. Note following .

The unit is not completely disconnected from the mains as long as the power cord is connected to a wall outlet.

Observera:

Apparatens strömförsörjning kopplas från sekundärt. V.g. ge akt på följande.

Apparaten frånkopplas inte helt och hållet från strömnätet medan apparatens nätsladd är ansluten till växelströmsuttaget.

Huom:

Virta yksikköön on kytketty pois sekundaaripuolelta. Huomioi seuraava.

Tämä yksikkö ei ole kokonaan kypketty pois pää virranjakajasta kun pää katkaisin on liitettynä virtatiiriin.

Bemærk:

Strømmen til apparatet afbrydes på den sekundære side. Vear opmærksom på følgende.

Denne enhed er ikke fullstendig koblet fra lysnettet så lenge stikket er tilsluttet stikkontakten.

Anmerkning:

Strømmen til apparatet er slått av på sekundærsiden. Vær oppmerksom på det følgende.

Dette apparatet koples ikke fullstendig fra nettet så lenge støpselet står i en stikkontakt, selv om strømbryteren settes i av-stilling.